Guidelines for Hospital Privileges in Vascular Surgery and Endovascular Interventions:

Recommendations of the Society for Vascular Surgery

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Abstract

The Hospital Privileges Practice Guideline Writing Group of the Society for Vascular Surgery (SVS) is making the following five recommendations concerning guidelines for hospital privileges for vascular surgery and endovascular therapy. Advanced endovascular procedures are currently entrenched in the everyday practice of specialized vascular interventionalists, including vascular surgeons, but open vascular surgery remains uniquely essential to the specialty. First, we endorse the Residency Review Committee for Surgery recommendations regarding open and endovascular cases during vascular residency and fellowship training. Second, applicants for new hospital privileges wishing to perform vascular surgery should have completed an Accreditation Council for Graduate Medical Education–accredited vascular surgery residency or fellowship or AOA accredited training program prior to 2020, and should obtain American Board of Surgery certification in vascular surgery, or AOA certification, within seven years of completion of their training. Third, we recommend that applicants for renewal of hospital privileges in vascular surgery include physicians who are board-certified in vascular surgery (regardless of whether they passed the qualifying and certifying examinations or were
“grandfathered” by their hospitals at an earlier time), general surgery or cardiothoracic surgery. These physicians with an established practice in vascular surgery should participate in Maintenance of Certification programs, as established by the American Board of Surgery and maintain their respective board-certification. Fourth, we provide recommendations concerning guidelines for endovascular procedures for vascular surgeons and other vascular interventionalists who are applying for new or renewed hospital privileges. Fifth, we endorse the Inter-societal Accreditation Committee (IAC) recommendations for noninvasive vascular laboratory interpretations and examinations to become a registered physician in vascular interpretation (RPVI), which is included in the requirements for board-eligibility in vascular surgery, but recommend that only physicians with demonstrated clinical experience in the diagnosis and management of vascular disease be allowed to interpret these studies.

Introduction

The following recommendations of the Society for Vascular Surgery (SVS) are meant to provide guidelines for granting hospital privileges to perform vascular interventions including open surgical and endovascular procedures of blood vessels in the body, excluding intra-cardiac and intracranial vessels. Of note, these interventions also apply to the thoracic aorta (exclusive of intra-cardiac vessels). These guidelines are intended to be inclusive, applying to individuals completing Accreditation Council for Graduate Medical Education (ACGME)-accredited vascular surgery training programs, as well as individuals who have completed training in other catheter-based procedures, such as interventional cardiology and interventional radiology. We
encourage hospitals to consider these guidelines for all specialties when granting endovascular
privileges.

Although the ultimate determination of who should and should not practice vascular
surgery and endovascular therapy in a given hospital remains its own responsibility, these SVS
guidelines provide a reference for credentialing committees regardless of the specialty of the
applicant. The most recent guidelines for credentialing and hospital privileges in vascular
surgery were published in 2008\(^1\). The specialty of vascular surgery has evolved with the creation
of primary board certification such that general surgery board certification is no longer a
prerequisite for new vascular training paradigms.

Establishing minimum annual case volumes for every open and endovascular procedure
for vascular surgeons or other interventionalists in clinical practice as a measure of competency
is beyond the scope of the SVS at this time, and other specialties agree with this position\(^2\). Such
guidelines for every arterial tree cannot be defended with existing supporting data and would be
so subject to opinion that they would not be relevant. The SVS recommends that hospitals take
into account board-certification and Maintenance of Certification (MOC), irrespective of
specialty, along with guidelines established by interventionalists practicing at a given hospital
during the appointment process. The specialists performing both open surgical and endovascular
procedures should also perform ongoing evaluation of outcomes of these interventions.

Definition of Vascular Surgery

Vascular surgery is the specialty that deals with the diagnosis and management of
disorders of the arterial, venous, and lymphatic systems, exclusive of intracardiac and
intracranial vessels, but which includes the thoracic aorta. We wish to emphasize that a fully 
trained “vascular surgeon” should be considered a vascular specialist who performs traditional 
open surgery but who also performs endovascular interventions and is competent to treat 
vascular diseases with non-interventional means. A fully trained vascular surgeon must have 
advanced knowledge and experience in the following six areas:

1. Pathophysiology and natural history: Understanding of the pathophysiology and the natural 
history of vascular disorders to include atherosclerosis, intimal hyperplasia, non-atherosclerotic 
arterial disease, vasculitides, thrombophilia and thrombotic disorders, venous and lymphatic 
diseases, and vascular end-organ disorders.

2. Clinical management: Clinical evaluation of vascular patients, including history, physical 
examination, and medical management including pharmacotherapy and risk factor reduction.

3. Vascular diagnostic testing and imaging: Noninvasive and invasive diagnostic testing of 
vascular disease, including but not limited to duplex ultrasound scanning, Doppler testing, 
plethysmography, magnetic resonance imaging, computed tomography angiography, contrast 
angiography and venography, intravascular ultrasonography (IVUS), and other new and evolving 
imaging tools.

4. Open vascular surgery: Indications for and techniques of open surgical treatment, including 
management of their complications, for vascular disorders involving arteries, veins and 
lymphatic vessels throughout the body, exclusive of intrinsic cardiac and intracerebral vessels. 
These arteries include the carotid artery and its extracranial branches, vertebral arteries, upper 
extremity arteries, intra-thoracic arch branches, the aortic arch and descending thoracic aorta, the 
abdominal aorta, the visceral and renal arteries, and the pelvic and lower extremity arteries.
Venous and lymphatic disorders are also included. The SVS confirms that vascular surgeons are the only specialty trained to treat patients with pathologies affecting all of the above vessels with open surgical treatment while also being the only specialists that can effectively treat complications of said surgeries with appropriate endovascular and open surgical intervention.

5. Endovascular therapy: Indications for and techniques of endovascular interventions, including management of their complications, for vascular disorders involving all vessels listed above for open surgery. Although vascular surgeons may not be the only specialty that can treat patients with these lesions with endovascular treatment, they are the only specialists that can offer the comprehensive and combined elements of medical management, endovascular therapy, or open surgery as effective initial treatment for all of the above disorders affecting all of the vessels listed above. They are also the only specialists able to effectively treat complications of endovascular intervention with appropriate endovascular and open surgical intervention.

6. Critical care management: Management of patients including preoperative and postoperative evaluation and treatment of vascular patients in the intensive care setting. This management includes understanding indications and techniques for the insertion of peripheral artery, central venous, and pulmonary artery catheters for hemodynamic monitoring.

In summary, it is the position of the SVS that vascular surgeons are the only specialists trained to treat patients with all of the above defined vascular disorders and vascular trees with both open and endovascular treatments, while also being able to effectively treat complications with appropriate endovascular or open surgical methods.

Training and Certification in Vascular Surgery
Currently there are three pathways approved by the ACGME for training in vascular surgery which lead to board certification by the American Board of Surgery (ABS), a member board of the American Board of Medical Specialties (ABMS).

1) Traditional pathway: This traditional training paradigm, which requires seven years to complete, is referred to as a 5+2 pathway. This pathway remains the most common training paradigm with 77 vascular surgery training programs in the Electronic Residency Application Service (ERAS) of the Association of American Medical Colleges (AAMC) participating in this traditional pathway [www.aamc.org]. This pathway requires completion of a five-year general surgery training program at an ACGME-approved site with a minimum experience of 850 total operative procedures during this training. Completion of general surgery training is followed by two years of vascular surgery training at an ACGME-approved site, which can be at the same institution or a different one, with an operative experience requirement of at least 250 major vascular reconstructions. Upon completing this traditional 5+2 pathway, the trainee is eligible for board certification in both general surgery and vascular surgery by the ABS. Although the ABS initially required board certification in general surgery prior to board certification in vascular surgery, an ABS policy enacted in 2012 now requires that the candidate only have an approved application for the general surgery qualifying exam for eligibility for vascular surgery boards [www.absurgery.org].

2. Integrated pathway: The integrated pathway, also referred to as a 0+5 pathway, is geared to medical students who have decided on a career in vascular surgery, participate in the main National Residency Match Program (NRMP) during medical school, and match into vascular surgery training to begin immediately following graduation from medical school. The integrated pathway was first approved in 2006 by the ABS and eliminated the need for board certification in general surgery as a prerequisite for vascular surgery certification.
in general surgery prior to board certification in vascular surgery by establishment of a primary board certificate in vascular surgery. Two years are devoted to core surgical training and three years to vascular surgery training, all of which must be completed at the same institution. The ACGME requires that residents in an integrated program complete a minimum of 500 total operative procedures and 250 major vascular reconstructions. Upon completion of the five-year training program, these trainees are eligible for board certification by the ABS only in vascular surgery. This integrated pathway has become increasingly popular among applicants, and there are presently 50 such training programs participating with ERAS. Certain institutions offer both 5+2 and 0+5 pathways.

3. Early specialization pathway (ESP): This pathway requires four years of general surgery residency and two years of vascular surgery residency at the same institution and enables the trainees to obtain ABS certification in both general surgery and vascular surgery. Only three programs currently offer an ESP. Trainees must complete a minimum of 850 total operative procedures and 250 major vascular reconstructions during these six years.

The ABS requires that all training programs in vascular surgery must be accredited by the ACGME through the Residency Review Committee for Surgery (RRC-S). The purpose of the RRC-S is to ensure that programs provide a broad and comprehensive exposure to the field of vascular surgery and meet other educational, administrative and ethical requirements. Of note, currently an independent RRC for vascular surgery does not exist, however, three vascular surgeons sit on the RRC-S at all times. All vascular training programs reviewed by the RRC-S will be reviewed by at least one vascular surgeon.
Upon completion of any of these training programs, the ABS allows a period of up to seven years for trainees to achieve initial board certification in vascular surgery, during which time the candidate is considered board-eligible. To achieve initial vascular surgery board certification, the physician must successfully complete clinical training in vascular surgery through one of the three previously listed pathways, obtain a letter of attestation from the training program director, obtain an unrestricted state medical license to practice, successfully pass the Registered Physician in Vascular Interpretation (RPVI) examination prior to sitting for the certifying examination, and pass the written (qualifying) and oral (certifying) examinations administered by the Vascular Surgery Board of the ABS (VSB-ABS). The SVS emphasizes that graduates from general surgery or cardiothoracic surgery residencies are not eligible for ABS vascular surgery board certification unless they have completed an ACGME-accredited vascular surgery residency. It is the position of the SVS that exposure to the field of vascular surgery during these other residencies is not sufficient to acquire the experience and judgment necessary for the independent practice of vascular surgery.

After achieving initial board certification in vascular surgery, the ABS requires physician participation in a program for MOC, which continuously measures the six core competencies defined by the ACGME to enhance patient care and improve outcomes. A four-part framework is used for MOC, including professional standing, lifelong learning, cognitive expertise, and performance in practice. Key elements of the MOC process include a minimum of 90 hours of category I credits over a three-year cycle (at least 60 of the 90 credit hours should include self-assessment), successful completion of a written examination at ten-year intervals, and participation in a surgical outcomes database. Failure to maintain these requirements for MOC will result in loss of board certification (www.absurgery.org).
Training Requirements for Vascular Surgery Trainees

The recommendations for training requirements take into account the comprehensive specialized training in vascular surgery and include non-operative medical management, endovascular interventions, open surgical treatment, and interpretation of non-invasive vascular laboratory studies.

I. Medical Management Requirements

Training in medical management of peripheral vascular disease is an integral part of vascular surgery training. Vascular trainees should have a thorough understanding of vascular disease risk factor modification. The care of the vascular patient occurs in a continuum and the trainee is expected to be able to evaluate these patients preoperatively, in the perioperative period including critical care management in the intensive care unit, and in the postoperative out-patient setting including surveillance of interventions.

For individuals who have completed the traditional (5+2) or early specialization (4+2) training programs, their general surgery training experience includes a minimum of 40 cases in surgical critical care must be listed, with at least one in each of the seven categories: ventilator management; bleeding (non-trauma); hemodynamic instability; organ dysfunction / failure; dysrhythmias; invasive line management and monitoring; and parenteral/enteral nutrition. For individuals who began integrated (0+5) training in July 2015, the 40 minimum is also required. (http://www.absurgery.org/default.jsp?certvsqe).

II. Endovascular Intervention Requirements
Open surgical training requirements were determined by the RRC-S but endovascular training requirements were developed by the SVS in conjunction with other specialties performing these procedures. Vascular surgery trainees are expected to acquire sufficient training to perform vascular catheter-based interventions and previous guidelines have been published. Trainees are expected to submit their endovascular case-load experience as part of their complete operative log, as verified by the program director, to the ACGME. Experience should be gained performing diagnostic catheterizations among the various vascular beds, and at least half should be selective catheterizations with 75% being arterial and 25% venous. Similarly, at least 75% of the therapeutic procedures should be on the arterial system so that the majority of the endovascular experience is not gained primarily via arteriovenous dialysis access interventions. The minimum number of diagnostic catheterizations is 100 and the minimum number of interventional catheterizations is 80 (TABLE I).

It is not realistic or feasible to require minimum numbers to confer competency for all endovascular interventions due to an absence of supporting evidence-based research. Nonetheless, the SVS wishes to address three specific endovascular interventions: endovascular abdominal aortic revascularization (EVAR), thoracic endovascular aortic revascularization (TEVAR), and carotid artery stenting (CAS). The recommended minimum number of EVAR cases is 20 and represents an increase over the 2002 RRC minimum of five cases as the primary operator. This number reflects the increasing percentage of endovascular aortic aneurysm repair vs. open repair in the United States and specifically in vascular training programs. These guidelines may change with time to remain consistent with future training.
The SVS endorses multi-disciplinary guideline papers in which the SVS has participated concerning TEVARs.\textsuperscript{5} Requirements for TEVARs include full basic endovascular privileges with an experience of 1) 10 TEVARs within the last two years or 2) less than this minimum for surgeons with robust EVAR experience of at least 25 EVARs with 12 as the primary operator. The term “full basic endovascular privileges” means that the operator is fully qualified as defined by multispecialty guidelines. Upon completion of their training, vascular surgery trainees performing TEVAR should be skilled in the perioperative management of aortic surgical patients and are expected to have experience in performing adjunctive procedures for TEVARs, including iliac conduits, femoral artery exposure, and de-branching procedures such as carotid-subclavian bypasses. By definition, vascular surgeon should have open thoracoabdominal aortic privileges, assuming their training encompassed these operations (see earlier section “Definition of Vascular Surgery”).

Multi-disciplinary credentialing guidelines for CAS have been published and endorsed by the SVS.\textsuperscript{6} These guidelines specify that diagnostic and stenting procedures may both be counted if performed during the same procedure. Although some vascular training programs may not meet these requirements, the document recommends a minimum of 30 carotid angiograms with half as the primary operator and a minimum of 25 carotid stent procedures with half as the primary operator.\textsuperscript{5}

III. Open Vascular Surgery Requirements

The vascular surgery trainee is expected to have performed sufficient numbers of open operations covering the full spectrum in the field of vascular surgery. The requirement is carefully evaluated by the RRC-S. This body and the ABS track individual components of
complex operations and consider all components when evaluating programs and trainees. Trainees are expected to submit their operative experience to the ACGME. Their case-load is verified upon their graduation by their program director.

The RRC has established minimum criteria for major open vascular reconstructive procedures performed by vascular surgery trainees (TABLE I) (https://www.acgme.org/Portals/0/VS_CatMins.pdf). The required numbers are 250 major vascular cases for all vascular surgery trainees, regardless of whether they participate in the traditional (5 + 2), early specialization (4+2), or integrated (0+5) programs. These cases should reflect an adequate representation of current practice as well as breadth and balance of experience in the surgical care of vascular diseases. Although these numbers are continually subject to change, currently the minimum criteria for open vascular operations include 30 open abdominal vascular operations, 25 cerebrovascular, 45 peripheral, and 10 complex vascular reconstructions (TABLE I).

IV. Noninvasive vascular laboratory diagnosis requirements

Vascular surgery training programs must include training in non-invasive vascular laboratory studies. To interpret these studies, a graduating trainee must demonstrate knowledge of vascular anatomy and physiology, as well as ultrasound physics, through the interpretation of non-invasive vascular studies. As suggested by the Inter-societal Accreditation Committee [IAC - previously the Inter-societal Accreditation of Vascular Laboratories (ICAVL)], a minimum number of supervised interpreted studies during postgraduate training are required for individuals desiring to apply for privileges in interpretation of specific individual areas of the vascular laboratory (www.intersocietal.org/vascular/standards/IACTesting Standard2016.pdf)
Not all individuals interpreting vascular laboratory studies will wish to interpret studies in all the areas of the vascular laboratory or will be qualified to interpret studies in all areas outlined above. Individuals may therefore elect to pursue privileges only in those areas which they have sufficient qualifications and training. The SVS believes that clinical experience in the treatment of vascular disorders is the other mandatory component of the non-invasive vascular laboratory experience, which other specialties may not provide. After completing training, the practicing vascular surgeon who wishes to interpret these studies must provide evidence of continuing medical education (CME) activity specific to non-invasive vascular diagnostic studies. As of 2014, initial board certification in vascular surgery by the ABS-VSB is predicated on successfully passing the RPVI examination.

As of June 2016, the Alliance for Physician Certification and Advancement (APCA) certifies physicians to be a Registered Physician in Vascular Interpretation (RPVI) [(previously administered by the American Registry of Diagnostic Medical Sonographers (ARDMS)]. The RPVI examination has specific prerequisites that must be completed prior to taking the vascular board examinations. Successful passing of the RPVI examination insures expertise in the interpretation of vascular laboratory studies among current vascular surgery trainees.

Training requirements for new vascular procedures

Vascular surgeons are expected to acquire proficiency in new and evolving open and endovascular procedures. As new procedures are introduced, it is important that practitioners be properly credentialed to ensure excellent outcomes and patient safety, which should include evidence of participation in CME courses relevant to the topic. On- or off-site mentoring may be
required depending on the complexity of the new procedure and experience of the operator and will need to be determined on a case-by-case basis. Physicians already trained and credentialed in endovascular interventions can use many new and modified devices, however, without additional special certification. Proctoring for certain new procedures may be desirable (http://www.sts.org/about-sts/policies/proctoring-policy).

The SVS proposes the following guidelines regarding training requirements for new open and endovascular vascular procedures:

1. Training requirements for new endovascular procedures at a given hospital, including cognitive training in disease management and patient care, should be the same for all interventionalists, regardless of specialty and regardless of whether they are applying for new vascular privileges or are already credentialed in vascular procedures at that hospital. We recognize training requirements for certain procedures may vary across specialties and have addressed this issue in other sections.

2. The definition of a “new” procedure changes with time. Societies may accumulate data providing a basis for performing new procedures at later dates. For example, criteria were previously proposed specifically for TEVAR and carotid stenting at a time when these procedures were considered “new” (see earlier section “Training Requirements for Vascular Surgery Trainees”). Now these procedures are performed frequently in many institutions and are an integral part of all accredited vascular surgery training programs. Other procedures such as fenestrated aortic grafts, renal angioplasty and stenting, visceral artery angioplasty and stenting, catheter based thrombolysis, and IVUS-directed venous stenting are also routinely performed in many hospitals. While other societies have
created criteria for credentialing for some of these procedures, consensus statements are lacking for most. There may be a role for further inter-societal criteria in the future.

3. Training requirements should be determined by frequency and complexity of the new procedures, industry requirements, and standards set by societies and by individual hospitals already performing these procedures. There should be an initial period of monitoring and evaluation of the provider’s performance of the new procedure.

4. Individual hospitals should establish guidelines determined by all accredited interventionalists practicing these newer procedures. These guidelines should include ongoing evaluation of outcomes for these new vascular surgical and endovascular procedures (see later section “Renewal of hospital privileges”). The SVS continues to support past recommendations by multidisciplinary writing groups, which included SVS participation, regarding TEVAR and CAS. The same numbers mentioned for vascular residents entering practice apply to credentialed surgeons already in practice (see earlier section “Training Requirements for Vascular Surgery Trainees”). For credentialed vascular surgeons in practice, a minimum of 10 hours of CME activity should be devoted to TEVAR every 2 years. For those performing CAS, 20 hours of CME activity specific to percutaneous therapeutic endovascular intervention and cerebrovascular disease should be required, 10 of which should be relevant to cervical or extracranial carotid angioplasty and stenting every 3 years. Successful completion of an industry-sponsored course by credentialed surgeons in practice may also be desirable to ensure familiarity with the nuances of various new devices; however, this should not be equated with having achieved competency in the overall procedure. As suggested earlier, proctoring for certain procedures may be considered.
Requirements for hospital privileges in vascular surgery and endovascular interventions
and non-invasive vascular laboratory interpretation

New applicants: Regarding initial open vascular surgical privileges, hospital-
credentialing committees must recognize the high level of training and expertise previously
outlined and offer new privileges only to board-eligible or board-certified vascular surgeons.

Regarding initial endovascular privileges, the SVS also firmly recommends that hospital
committees recognize the high level of training required by board-eligible and board-certified
vascular surgeons, which we have also previously detailed. We recognize that physicians from
other specialties may be qualified to perform endovascular procedures if they have received
sufficient training from their own ACGME-approved training programs. We agree with the
recommendations of Reed et al that one-year of training devoted to peripheral vascular
interventions, in addition to one year of coronary intervention training, be required for
interventional cardiologists to be granted peripheral endovascular privileges. The SVS
recommends that the criteria used in each facility to grant initial privileges in endovascular
procedures be designed to provide vascular care that is safe and centered on the best possible
patient outcomes using evidenced based guidelines. As part of the credentialing process, we
recommend that hospitals should have criteria in place to certify practitioners from different
specialties when performing similar procedures.

Of note, The Joint Commission (TJC) (www.jointcommission.org) holds all healthcare
facilities responsible for credentialing physicians to the same standards, irrespective of physician
specialty. Case volumes have been used as a surrogate for competence for these procedures with
the realization that it is an imperfect standard. The SVS believes that specific privileging
criteria including minimum number of cases is not feasible for endovascular interventions for
each vascular tree. However, specific criteria have been developed for endovascular interventions for thoracic aortic pathology, carotid artery disease and others, which the SVS endorses.4-6

Additionally, in accordance with The Joint Commission, the SVS recommends that credentialing of new applicants should also require verification of licensure and an assessment of the physician’s current competence to perform the requested privileges.

**Renewal of privileges:** Renewal of privileges should be granted to physicians with existing privileges in 1) open vascular surgery, namely vascular surgeons, general surgeons or cardiothoracic surgeons, and 2) endovascular interventions, namely vascular surgeons, interventional cardiologists, and interventional radiologists, who have completed appropriate training programs and on the basis of maintenance of board-certification and MOC requirements.

Credentialing committees in each hospital should define case volumes and outcomes for re-credentialing. Renewal of privileges in vascular surgery and endovascular procedures for surgeons and other interventionalists who already have privileges to perform these procedures should be granted on the basis of an analysis of their patient outcomes in comparison to local, regional, and national standards. The SVS strongly encourages hospitals and their credentialing bodies to have access to a nationally validated registry of vascular surgery and endovascular procedures for all physicians performing these procedures, regardless of physician specialty or the location where they are performed (e.g. cardiac catheterization laboratory, interventional radiology suite, and hybrid or conventional vascular operating rooms). The SVS endorses participation in the Vascular Quality Initiative (VQI – [www.vascularqualityinitiative.org](http://www.vascularqualityinitiative.org)) to improve regional benchmarking by assessing the quality, safety, effectiveness and cost of vascular procedures. By collecting, analyzing and sharing data on pre-procedure risk factors,
intra-procedural variables, post-procedural outcomes, and one-year follow-up data, outcome analysis can be performed. The SVS recommends that a procedure not reported in the VQI or other validated registries should not be referred to in terms of establishing minimum numbers for privileges.

The SVS also endorses Ongoing Professional Practice Evaluation (OPPE) and Focused Professional Practice Evaluation (FPPE) processes as directed by The Joint Commission for newly credentialed physicians, newly credentialed procedures, and physician probationary periods (www.jointcommission.org). OPPE can be used as a performance enhancement tool to avoid adverse outcomes. Quality measures selected by the hospital’s credentialing committee within the field of vascular surgery should be established and met during a pre-determined time period immediately following initial appointment of a vascular surgeon or other endovascular specialist. These quality indicators, which can mirror ongoing VQI data collection, may be compared to peer or benchmark data and used to validate competence within the field and determine the maintenance or alteration of privileges. More importantly, this valuable measure can allow early identification of negative trends and lead to timely proactive education, training or collegial intervention. Similarly, Focused Professional Practice Evaluation (FPPE) can be instituted for vascular surgeons requiring additional review during probationary periods or for newly credentialed procedures. Meaningful quality measures should be established for all new procedures based on review of available data in the literature and input from a multidisciplinary group of peers. Prospective review of these indicators will insure safe and proficient implementation of the new procedure for each qualifying vascular surgeon or endovascular interventionalist.
Mechanisms of audit, morbidity and mortality review, and corrective actions in each hospital fall under the purview of a peer-review committee, credentialing committee, or designated subcommittee with input from a multidisciplinary quality assurance committee.

In regards to credentialing for interpretation of non-invasive vascular laboratory studies, whether for new privileges or renewal of privileges, RPVI credentialing from the Alliance for Physician Certification and Advancement (APCA) should be construed as having fulfilled the requirements for vascular laboratory credentialing, if they have also demonstrated a commitment to treating vascular disorders. The APCA requires a specific number of cases and experience before allowing physicians to take the examination (see earlier section “Training Requirements for Vascular Surgery Trainees”). Vascular surgeons who completed an ACGME-approved vascular surgery training program since 2014 are required to obtain an RPVI certificate to become board-eligible and therefore are qualified to have privileges for interpretation of non-invasive vascular laboratory studies, since they also have fulfilled criteria of thorough training in treating vascular disease. We recommend that other specialists follow these same guidelines. The SVS firmly recommends that physicians not be allowed to interpret non-invasive vascular laboratory studies, even if the candidate passes the examination, unless the applicant also has completed or is in the process of completing a residency or fellowship dedicated to the comprehensive management of vascular disease, such as vascular surgery, vascular medicine, cardiology, or radiology. This additional requirement prohibits physicians who do not have thorough training in the diagnosis and treatment of vascular disorders from being allowed to interpret these studies.

Obtaining certification from the American Society of Neuroimaging (ASN) is acceptable for physicians who wish to interpret extracranial and intracranial examinations only.
It should be emphasized that the SVS, in agreement with The Joint Commission standards, believes that the decision to grant or deny hospital privileges in vascular surgery to new applicants or to those with established practices, irrespective of specialty, should be an objective evidence-based process.

A summary of guidelines for hospital privileges in vascular and endovascular surgery is provided in TABLE III.

This document was reviewed and approved by the VSB-ABS as well as the Association of Program Directors in Vascular Surgery (APDVS).
REFERENCES


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<td>TABLE II: INTER-SOCIETAL ACCREDITATION COMMITTEE GUIDELINES FOR</td>
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<td>SUPERVISED INTERPRETED STUDIES</td>
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### TABLE III: SUMMARY OF GUIDELINES FOR HOSPITAL PRIVILEGES

**IN VASCULAR SURGERY AND ENDOVASCULAR THERAPY**

**New hospital privileges:**

- Completion of ACGME-approved vascular surgery residency with passing of ABS vascular certification within seven years of completion of training
- This training includes the open surgical and endovascular experience inherent in these approved programs, along with passing the RPVI exam and gaining knowledge of medical management of these patients

**Renewal of existing vascular privileges for vascular surgeons:**

- Passage of ABS re-certifying examination in vascular surgery within ten years
- Completion of MOC by the American Board of Surgery
- Outcome analysis based on regional or local registries (e.g. SVS Vascular Quality Initiative)
- Passing the RPVI exam or appropriate CME in the non-invasive vascular laboratory

**Renewal of existing vascular privileges for non-vascular surgeons:**

- Passage of re-certifying examination in the physician’s specialty within ten years
- Completion of MOC
Outcome analysis based on regional or local registries

Passing the RPVI exam or appropriate CME in the non-invasive vascular laboratory